

ADOT

Air Quality Management Guidebook

Webinar I

April 4, 2013

Introductions

Who's Here?

- ▶ **ADOT**
- ▶ **Baker**
- ▶ **Others?**



Presentation Outline

- ▶ Arizona Department of Transportation (ADOT)
Air Quality Management Guidebook & Case Study
- ▶ Overview of Air Quality Requirements in Arizona
- ▶ Interagency Consultation
- ▶ Conformity Procedures
- ▶ Development of Mitigations Measures & TCMs
- ▶ Feedback

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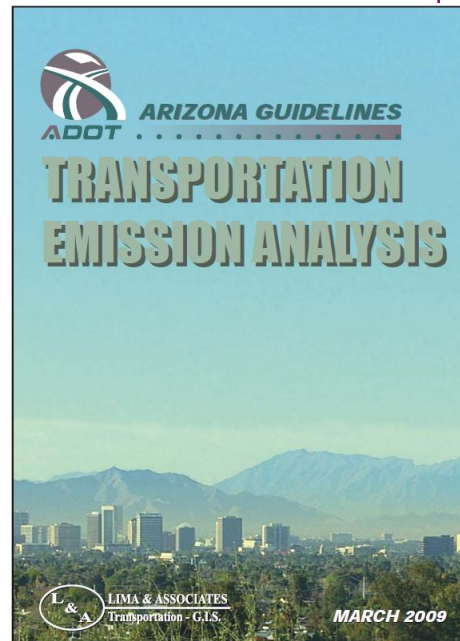
Air Quality Management Guidebook & Case Study

► Purpose & Goals

► Contents

► Deliverables to date

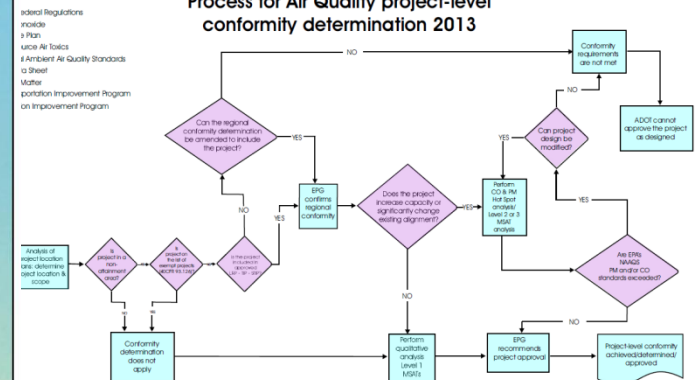
- WP-1
- IWP-2



ADOT CONFORMITY CONSULTATION PROCESSES FOR THE NONATTAINMENT AREAS OUTSIDE OF A METROPOLITAN PLANNING ORGANIZATION AS REQUIRED UNDER ARIZONA CONFORMITY RULE

R18-2-1405

Process for Air Quality project-level conformity determination 2013



ARIZONA DEPARTMENT OF TRANSPORTATION ANSPORTATION CONFORMITY GUIDANCE AND PROCEDURES REQUIRED UNDER ARIZONA ADMINISTRATIVE CODE SECTIONS R18-2-1405(R) AND R18-2-1429 (D)

REVISED DRAFT
September 5, 1995

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Air Quality Management Guidebook

Air Quality Overview

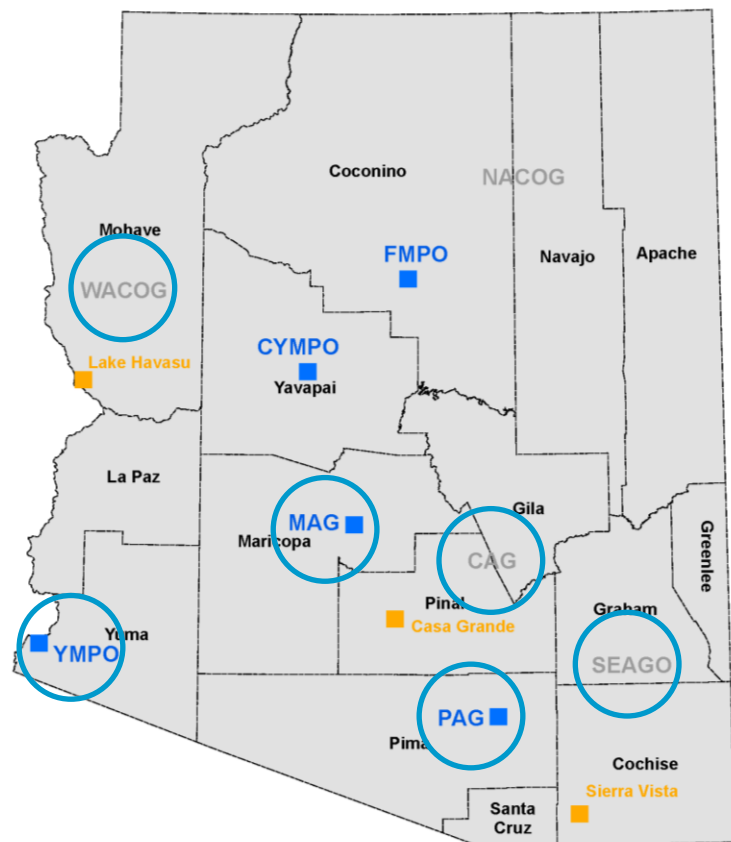
Air Quality Overview

- ▶ **Arizona Air Quality Geography**
- ▶ **Transportation & Air Quality *Simplified***
- ▶ **Nonattainment & Maintenance Areas in Arizona**
- ▶ **Transportation Conformity: *The Basics***
- ▶ **What will be in the Guidebook?
*Nogales Example***

Goal: Summarize Arizona AQ Status & Requirements

Air Quality Overview

Arizona Air Quality Geography



Arizona Metropolitan Planning Organizations

- Central Yavapai Metropolitan Planning Organization (CYMPO)
- Flagstaff Metropolitan Planning Organization (FMPO)
- Maricopa Association of Governments (MAG)*
- Pima Association of Governments (PAG)*
- Yuma Metropolitan Planning Organization (YMPO)

* *Transportation Management Areas (TMAs)*

Arizona Councils of Governments

- Central Arizona Governments (CAG)
- Maricopa Association of Governments (MAG)
- Northern Arizona Council of Governments (NACOG)
- Pima Association of Governments (PAG)
- SouthEastern Arizona Governments Organization (SEAGO)
- Western Arizona Council of Governments (WACOG)

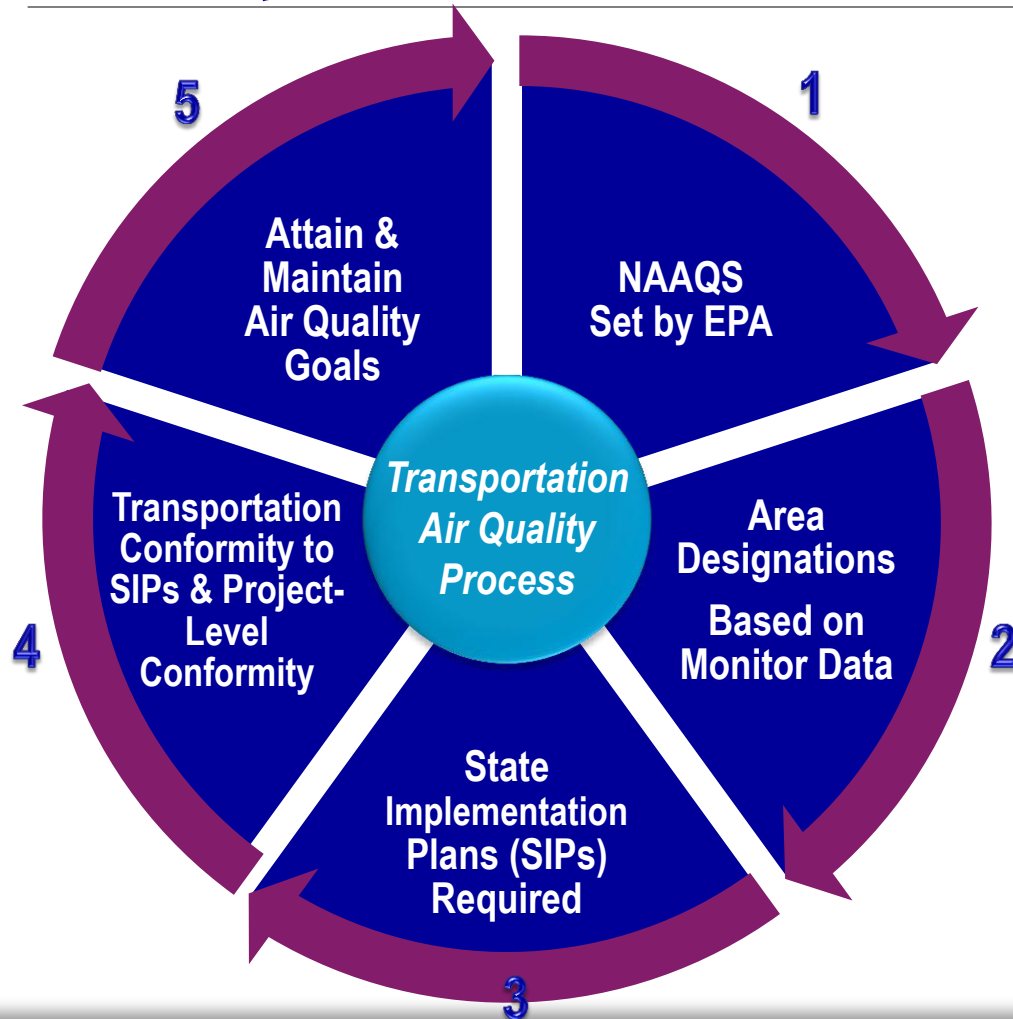
New Urban Areas (2010 Census)

- Casa Grande
- Lake Havasu
- Sierra Vista

○ Nonattainment or Maintenance Area(s) Located within Jurisdiction

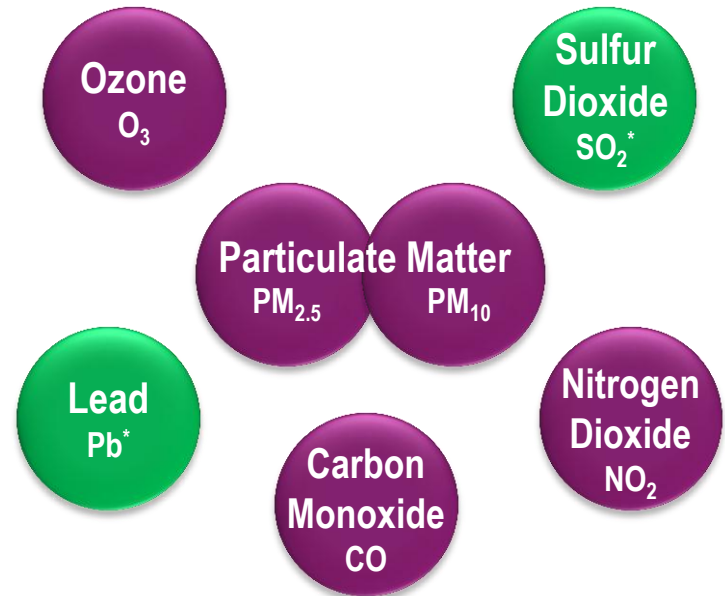
Air Quality Overview

Transportation & Air Quality - Simplified



What's a NAAQS?

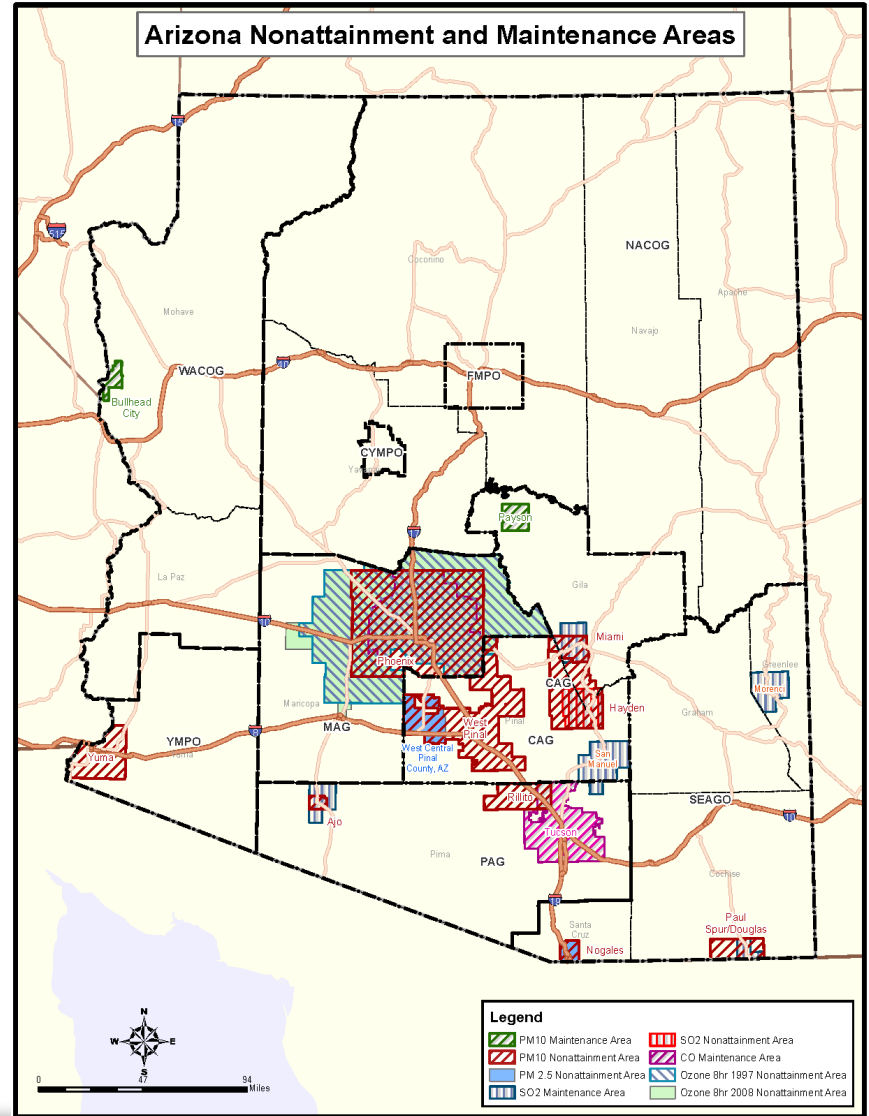
National Ambient Air Quality Standards required by the Clean Air Act and set by EPA for six criteria air pollutants:



** Pb and SO_2 areas not subject to transportation conformity requirements*

Air Quality in Arizona

- Regional (1)
- Project-Level (3)
- Both (12)



Air Quality Overview

Transportation Conformity – The Basics

Initial determinations made by
MPOs or ADOT

Final determinations made
(approved) by FHWA / FTA in
consultation with EPA

Technical analysis and documentation
of emissions associated with
transportation plans and projects

Interagency Consultation
using federally approved
guidance and tools

MPO Areas

At least every 4 years

Isolated Rural Areas

New non-exempt FHWA /
FTA project needs funding
or approval



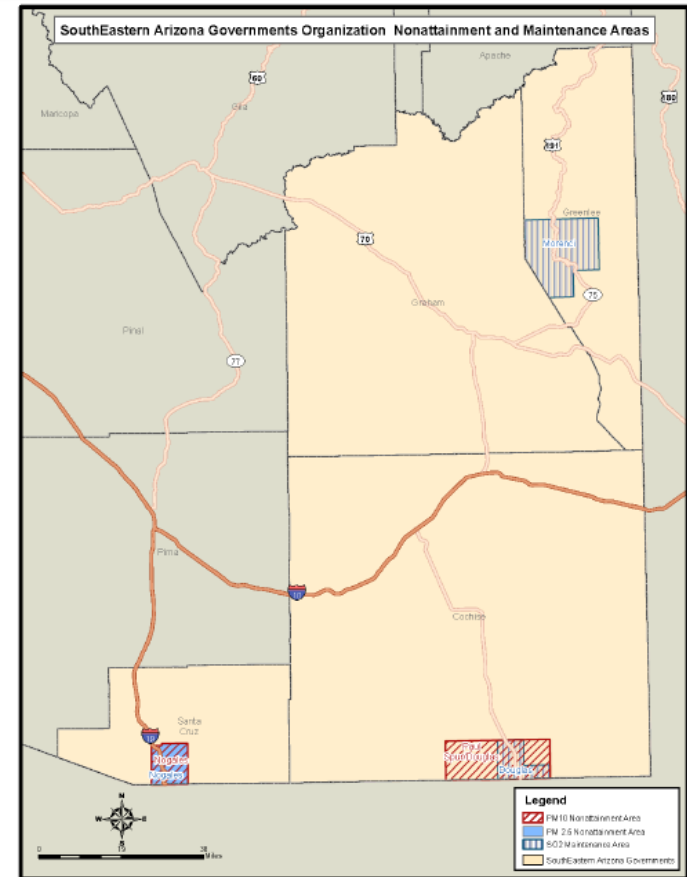
Ensure federal funding / approval
for transportation projects
consistent with AQ goals

Areas designated
nonattainment or
maintenance for CO,
Ozone, PM_{2.5}, PM₁₀, and
NO₂

Air Quality Overview

What will be in the Guidebook?

- ▶ Overview of NAAQS
- ▶ Conformity Background
- ▶ Arizona Status
 - Nonattainment / Maintenance Areas
 - SIPs
 - MVEBs
- ▶ Other Resources



County	Current SIP Status ¹	Notes (as of February 1, 2013)
Nogales, AZ PM_{2.5} Nonattainment Area		
Santa Cruz (P)	Attainment Finding Effective 2/6/2013 78 FR 887	Area remains nonattainment until a Maintenance Plan is submitted and approved. Regional conformity still applies.
Nogales, AZ PM₁₀ Moderate Nonattainment Area		
Santa Cruz (P)	2012 SIP Approval Effective 10/25/2012 77 FR 58962	EPA approved the plan element demonstrating that the Nogales nonattainment area is attaining the NAAQS for PM ₁₀ , but for international emissions sources in Nogales, Mexico.
Paul Spuri/Douglas (Cochise County), AZ PM₁₀ Moderate Nonattainment Area		
Cochise (P)	Attainment finding Effective 9/4/2012 77 FR 45965	Area remains nonattainment until a Maintenance Plan is submitted and approved. Maintenance Plan under development. Regional conformity still applies.

(P) = Partial

1. For information regarding Federal Register documentation related to motor vehicle emissions budgets (MVEBs) please see Table A1-1.

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Air Quality Management Guidebook

Interagency Consultation

Interagency Consultation

- ▶ **Existing Requirements**
- ▶ **Other States' Procedures**
- ▶ **Recommendations for Moving Forward**

Goal: Update and Streamline Existing Processes

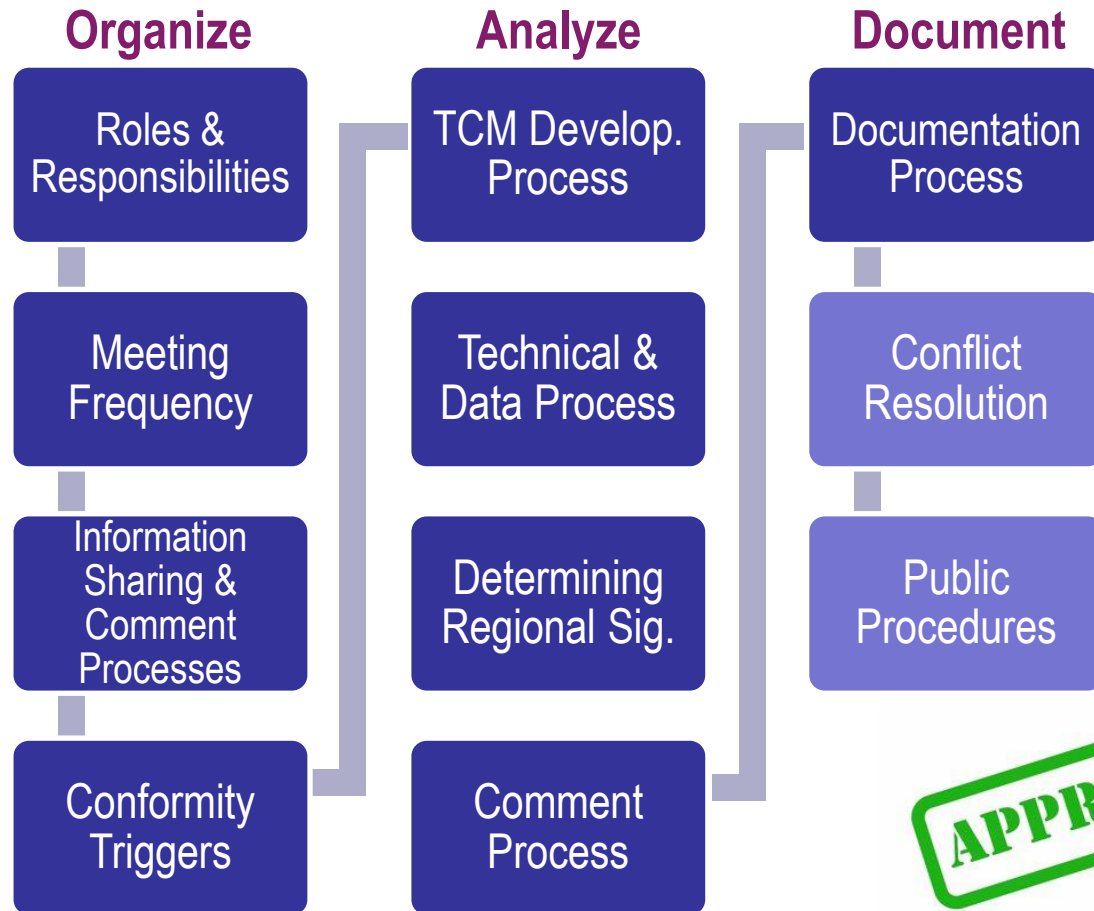
Interagency Consultation

Existing Requirements - Federal

- ▶ **The Clean Air Act Section 176(C)**
- ▶ **Federal Conformity Rule 40 CFR 93.105**
- ▶ **Conformity SLP Requirement 40 CFR 51.390**
- ▶ **Guidance for Developing Transportation Conformity SLPs EPA-420-B-09-001**

Interagency Consultation

Existing Requirements – Streamlining the Process



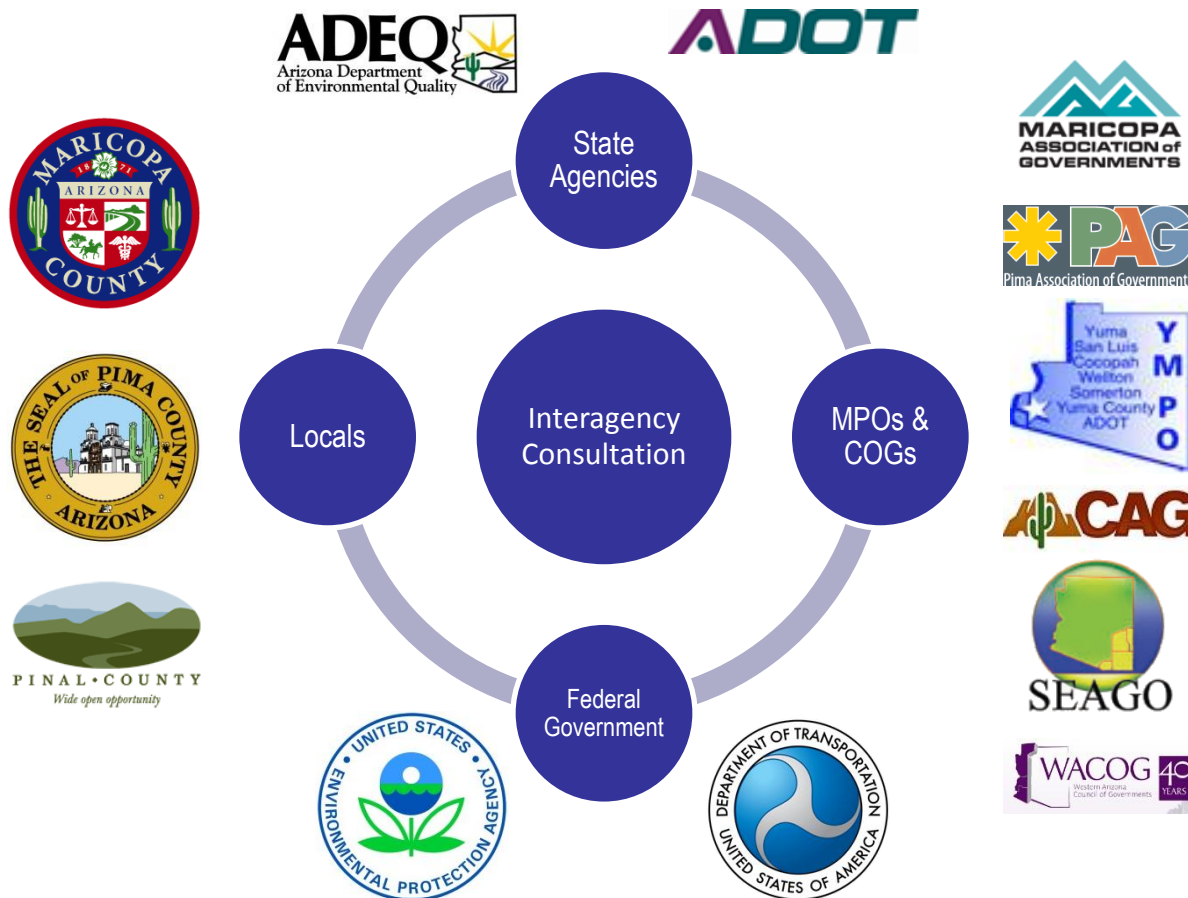
Interagency Consultation

Existing Requirements - Arizona

- ▶ **Arizona Code (AAC) R18-2-1405**
- ▶ **ADOT Guidance**
 - **Conformity Guidance and Procedures under AAC R18-2-1405(R) and R-18-1429(D)**
 - **Conformity Consultation Process for the Nonattainment Areas Outside of a MPO**
- ▶ **Conformity Resolutions & Plans**

Interagency Consultation

Arizona Participants



Interagency Consultation

Current Roles & Responsibilities in Arizona



- ✓ Project-Level Conformity
- ✓ State TIP & Plan
- ✓ Conformity in Non-MPO Areas
- ✓ Traffic Data & Projections
- ✓ Statewide Model



- ✓ Develop SIPs
- ✓ VEIP
- ✓ AQ Plans & Rules
- ✓ AQ Monitoring & Forecasting
- ✓ Compliance & Enforcement



- ✓ Regional Planning
- ✓ GIS Data & Maps
- ✓ Regional Conformity
- ✓ Traffic Data & Model Forecasts
- ✓ CMAQ Project Analysis



- ✓ AQ Monitoring & Forecasting
- ✓ Compliance & Enforcement
- ✓ Dust Control Rules & Training
- ✓ Develop AQ Plans & Rules
- ✓ Trip Reduction & Voluntary Vehicle Repair Programs



- ✓ Project Notifications
- ✓ Review Conformity Analyses
- ✓ Schedule Meetings
- ✓ Provide Data



- ✓ Approve Conformity
- ✓ Approve STIP
- ✓ CMAQ Funding
- ✓ Conformity Training
- ✓ Guidance Development



- ✓ Approve SIPs
- ✓ Designations
- ✓ Compliance & Enforcement
- ✓ MOVES Model
- ✓ Guidance Development

Interagency Consultation

Review of Other States' Procedures

	Maryland	Pennsylvania	Virginia
Areas Requiring Conformity	5	23	6
Large MPOs, Small MPOs, & Rural Areas	✓	✓	✓
Conformity SIP	✓	✓	✓
State Regulations	✓	✗	✓
Memorandums of Understanding	✗	✓	✓
Multi-pollutant issues	✓	✓	✓
Project-Level Conformity Required	✓	✓	✓

Interagency Consultation

Review of Other States' Procedures



ICG Mechanism	MPO Board MPO Tech. Committees	Quarterly TAQWG MPO Tech. Committee	MPO Board MPO Tech Committees
Large MPOs' Roles	Lead ICG and Tech. Process	Tech. Process Lead	Lead ICG and Tech. Process
Small MPOs' Roles	Lead ICG DOT Tech. Process	Participate in Quarterly Calls	Lead ICG DOT Tech. Process
Rural Areas' Roles	Public Involvement DOT Tech. Process & ICG	Public Involvement	Public Involvement DOT Tech. Process & ICG
DOT Roles	Voting Member Tech. Lead (Small/Rural)	Lead ICG Tech. Lead (Small/Rural)	Voting Board Member Tech. Lead (Small/Rural)

Interagency Consultation

Review of Other States' Procedures



Advantages

- ✓ MPO ICG Process Lead
- ✓ Specialized Procedures by Area
- ✓ Flexibility for MPOs to Revamp Procedures as Needed



- ✓ Standardized Process
- ✓ Streamlined Project Reviews
- ✓ Min. Determinations through Project Tracking
- ✓ Centralized Process via DOT



- ✓ Customized Approach by Area
- ✓ Local Process Linked to Planning
- ✓ Consistent Data
- ✓ Detailed Responsibilities

Disadvantages

- ✗ Limited economy of scale
- ✗ Must Attend Multiple Meetings
- ✗ Limited Central Database of Data and Processes

- ✗ Must Attend Multiple Meetings

- ✗ Separate Documents by Area
- ✗ Must Amend Documents
- ✗ Regional MVEBs

Interagency Consultation

Recommendations for Moving Forward

- ▶ **Update Existing ADOT Procedures**
- ▶ **Update Existing Arizona Rule**
- ▶ **Develop Conformity SIP**
- ▶ **Consider Updating Resolutions & Plans**

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Conformity Procedures

Conformity Procedures

- ▶ **Proposed Content of Working Paper**
- ▶ **Review of Conformity Analyses**
- ▶ **Data Sources & Key MOVES Considerations**
- ▶ **Sample MOVES Application (Pinal County)**
- ▶ **Potential Role of Post Processing**
- ▶ **Project-Level Process**

**Goal: Document Existing ADOT Processes &
Provide Recommendations for Updates**

Conformity Procedures

Proposed Content of Working Paper

Review of Conformity Procedures

- Highlight technical issues (Pros/Cons)

Assess Available Data Sources

- Uses of each data source (Pros/Cons)

MOVES Modeling Issues

- Key technical issues / Pre-Post processing options

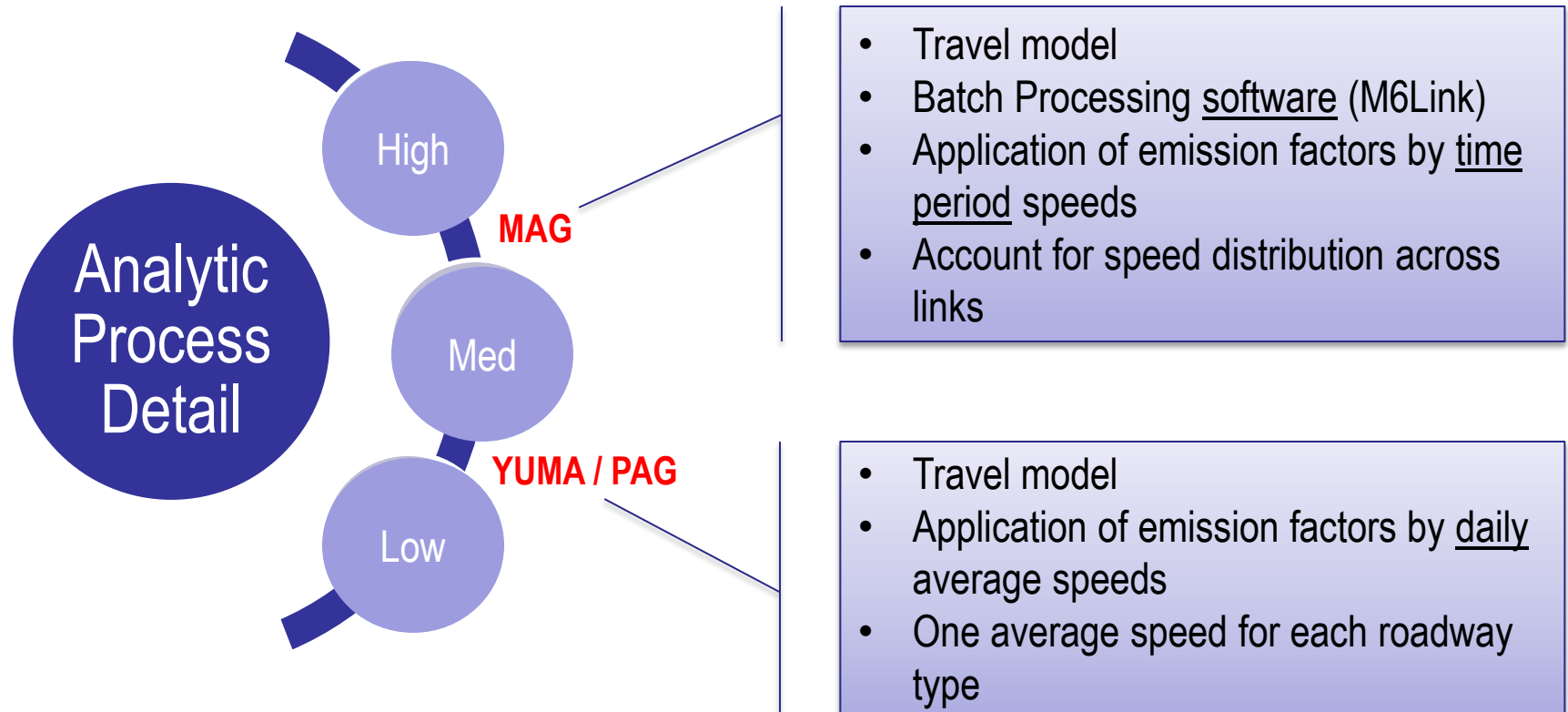
Recommendations

- Technical Standards / Efficiency / Quality-Control / Consistency

What are We
Missing?

Conformity Procedures

Review of Conformity Analyses



Conformity Procedures

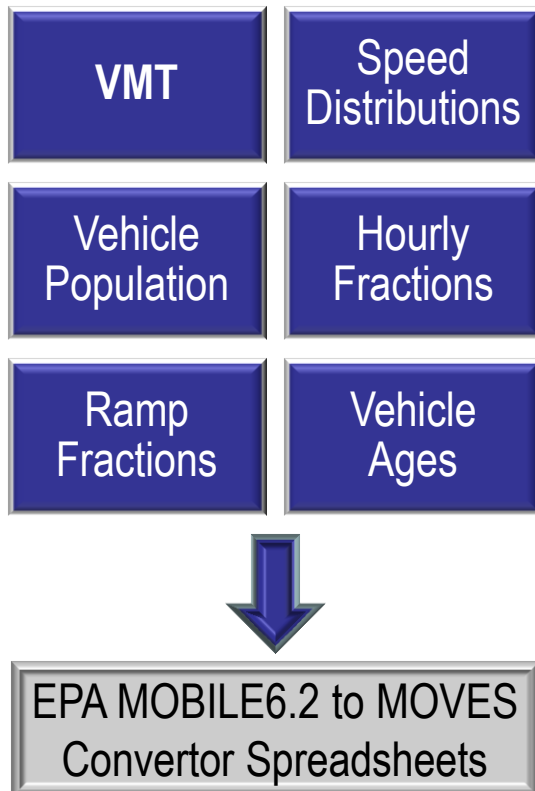
Data Sources

Data Source	Uses	Pros	Cons
MPO Travel Model	<ul style="list-style-type: none">• Conformity• SIP Inventories	<ul style="list-style-type: none">• Traffic diversion• Forecasts based on demographics	<ul style="list-style-type: none">• Existing conditions• Accuracy of speeds?
Statewide Model	<ul style="list-style-type: none">• Conformity• SIP Inventories	<ul style="list-style-type: none">• Covers all counties	<ul style="list-style-type: none">• Network coverage• Accuracy of speeds
HPMS VMT	<ul style="list-style-type: none">• SIP Inventories• Investigative efforts• EPA NEI	<ul style="list-style-type: none">• Support data for other methods	<ul style="list-style-type: none">• Lack of detail for speed estimation
HPMS Databases	<ul style="list-style-type: none">• Conformity• SIP Inventories• EPA NEI	<ul style="list-style-type: none">• Covers all counties• Good source for existing conditions	<ul style="list-style-type: none">• Project diversions• Forecasting• Pre/Post processing



Conformity Procedures

Sample MOVES application Pinal County



Areas of Concern for Further Discussion:

- Vehicle mapping for VMT
 - Use of MOBILE 6.2 defaults
 - Mapping of model to MOBILE6.2
- Use of model ramp VMT
- Use of heavy vehicle population and ages
- Validity of model speeds

Conformity Procedures

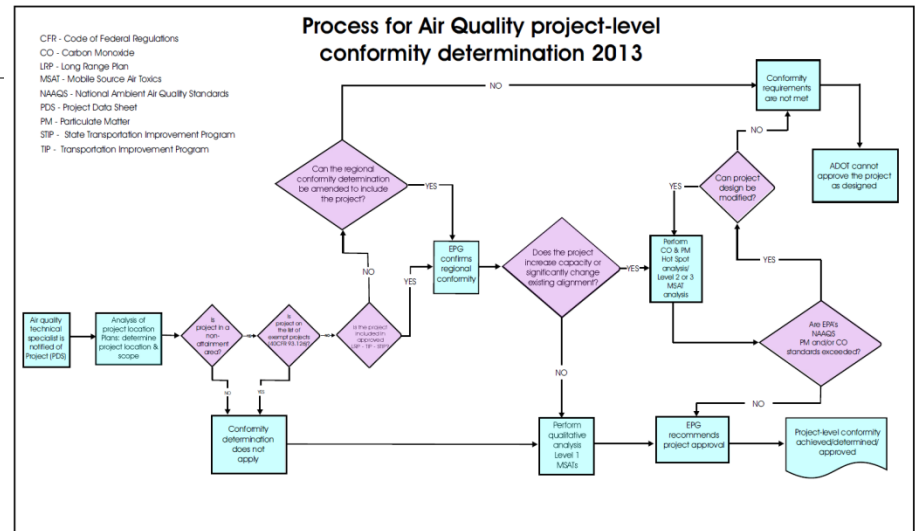
Project Level Process

► Areas of Focus

- Projects requiring a quantitative analysis
- Technical analysis procedures

► Other State Efforts

- Limit projects requiring CO and PM hotspot analyses
- Limit interagency consultation to a small # of projects



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Mitigation Measures and Transportation Control Measures

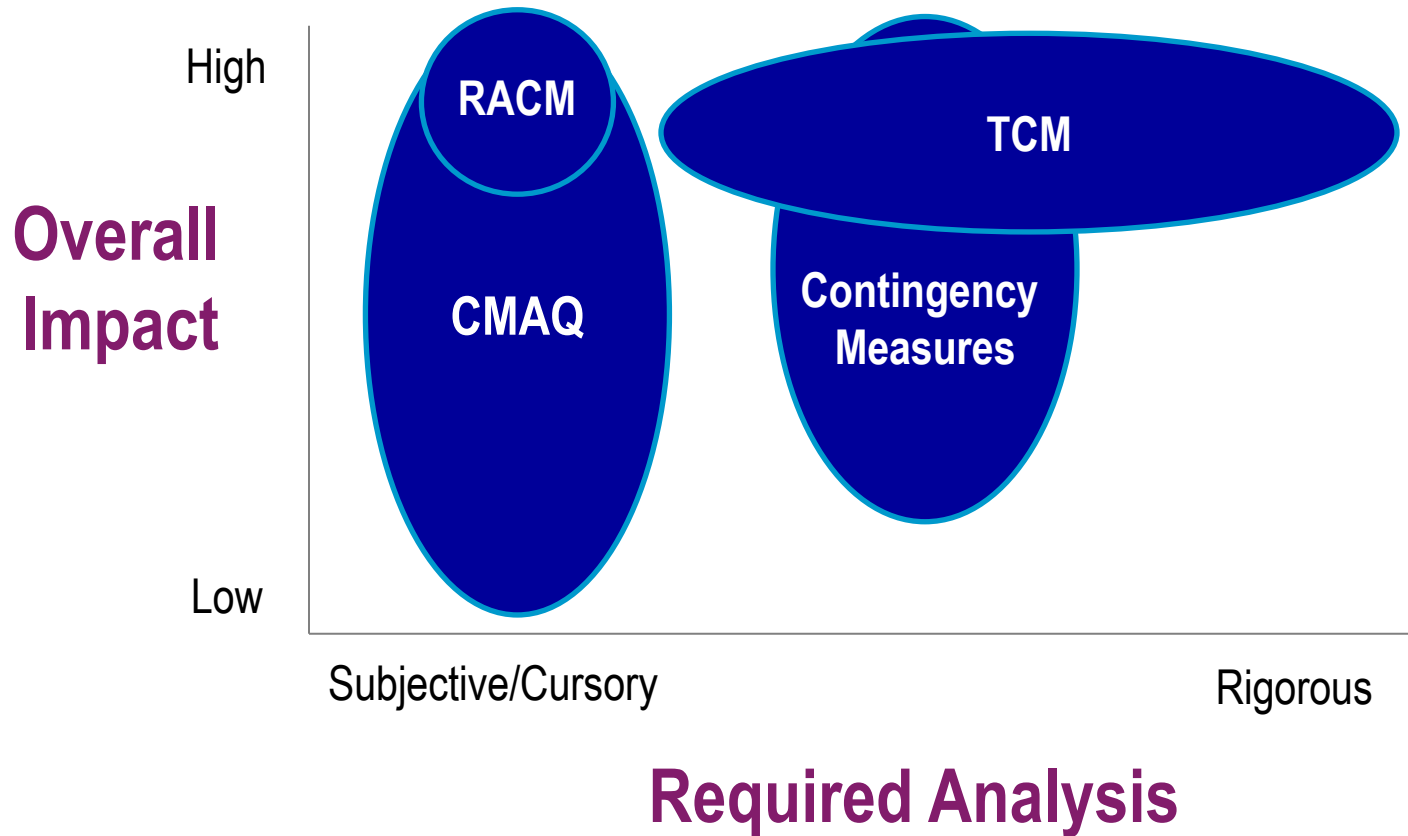
Development of Mitigation Measures and Transportation Control Measures

- ▶ **What is a TCM?**
- ▶ **Assessment of Current Methodologies**
- ▶ **Research and Development**
 - **Project Types**
 - **Methodology Development**
- ▶ **Recommendations**

Goal: Document Existing ADOT Processes & Provide Recommendations for Updates

Mitigation and Transportation Control Measures

Are they all TCMs?



Mitigation and Transportation Control Measures

Assessment of Current Methodologies

- ▶ **Arizona is Unique**
- ▶ **Documented Approaches and Analyses in Arizona (SIPs, CMAQ, Others?)**
- ▶ **Work to Date**
 - **Review Existing Documents**
 - **Review of Other States**

Mitigation and Transportation Control Measures

Potential Project Types – PM_{10}

- ▶ Paving
- ▶ Construction Dust Control
- ▶ Road Sweeping
- ▶ Weight / Speed Restrictions
- ▶ Vehicle Technology



Mitigation and Transportation Control Measures

Potential Project Types – Ozone and PM_{2.5}

► Trip Reductions

- Bike / Ped. Facilities
- New Bus Service
- Park & Ride

► Vehicle Technologies

- Replacements
- Retrofits / APUs
- Anti-Idling



Mitigation and Transportation Control Measures

Recommended Approach

- ▶ Assemble project types and methods from MAG
- ▶ Remove MAG specific values/calculations
- ▶ Check against AP-42 methods (Fugitive Dust)
- ▶ Rework MOBILE approaches to MOVES
- ▶ Update emission rates as reasonable
- ▶ Develop spreadsheet to assist in calculations
- ▶ Add projects types

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Air Quality Management Guidebook

Feedback & Contact Info.

Feedback

Tell us what you think.

- ▶ Comments
- ▶ Questions
- ▶ Resources
- ▶ Documents:

- http://www.azdot.gov/mpd/air_quality/projects.asp



Contacts

Keep us in the loop.



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